Reducing Alcohol-related HIV Risk in Katutura, Namibia

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Presentation for STRIVE Learning Lab

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**Project Rationale**

*Scientific evidence justifies an urgent call for action to address alcohol-related HIV risk.*

- Meta analysis (Fisher, Bang & Kapiga 2007) found that drinkers have 1.57 times risk of HIV compared to abstainers and “problem drinkers” have 2.04 times the risk
- Limited evidence exists regarding whether/how community- and environmental-level strategies can reduce alcohol-related HIV risk
- Namibia is well-suited for intervention research:
  - Generalized HIV epidemic (13.5% prevalence 2010/11)
  - High rates of alcohol consumption (9.6 liters per capita 2003/5)
  - High densities of formal and informal (“shebeens”) drinking venues
  - Recent study in Namibia found strong associations between the density of drinking venues (at neighborhood level) and HIV prevalence (Nichols et al 2012)
1: Least hazardous (Regular drinking, often with meals and without heavy drinking bouts)

4: Most hazardous (Infrequent but heavy drinking)
Project Goal & Intervention Site

Goal: To develop, implement, and evaluate a multilevel intervention program to demonstrate how community- and bar- level approaches can positively influence alcohol related HIV risk behavior for individuals.

Intervention site: 4-square-kilometer neighborhood within a sprawling, low income, peri-urban settlement (Katutura) on the outskirts of Windhoek.
Intervention Site
Outside of a Shebeen
Local Advertisements
Intervention: 2 Components

1. **Community mobilization**: Mobilizing the community to address alcohol-related harm
   - Formation of the “Community Action Committee” (CAC) to lead and oversee mobilization activities
   - Selection and training of volunteers to raise awareness and engage community through door-to-door outreach and group discussions

2. **Bar based activities**: Creating risk-averse bar environments
   - Recruitment and training of bar owners
   - Mentorship of bar owners to assist the implementation of action plans (including environmental and behavioral interventions to bars)

* Implementing partner: Namibia Society for Health (SFH)
Bar-based Activities

• **Interpersonal interventions by bar staff**
  – discuss hazards of heavy drinking
  – provide general information about HIV
  – advise patrons on how to prevent HIV
  – recommend patrons stop drinking or eat/drink water before continuing to drink
  – refuse to sell alcohol to intoxicated patrons

• **Changing structural aspects of the bar environment**
  – enforce regular hours
  – sell food options
  – sell nonalcoholic beverages
  – ensure condoms are available
  – display posters on alcohol related HIV risk and other educational materials in bar
Evaluation Objectives

1. Assess feasibility
2. Measure exposure
3. Measure preliminary program effect
4. Document operational lessons learned
### Outcome Measures

| Alcohol use                              | AUDIT score of alcohol dependency (0 out of 40) |
|                                         | Regular binge drinking during last 12 months (6 or more) |
|                                         | Average standard alcohol units consumed on a typical occasion |
|                                         | Agree - Intend to drink < 5 drinks at one time |
|                                         | Agree - have control over drinking < 5 |
| Sexual risk intentions                   | Discussed condoms with partner; obtained condom (last 6 mo) |
|                                         | Refused to have sex without condom (last 6 mo) |
|                                         | Always intends to use condom with causal partner |
|                                         | Always has control over condom use with casual partner |
|                                         | Very likely to use condom with casual partner after drinking |
| Sexual Behaviors                        | Average number of different sex partners (last 6 mo) |
|                                         | Proportion of sex w/ condom out of total sex episodes (last 6 mo) |
|                                         | Used condom at last sex; drunk at last sex |
| HIV knowledge                           | Percent of basic HIV questions answered correctly (out of 11) |
|                                         | Correctly identifies that drinking alcohol can increase HIV risk |
| Bar environment                         | Frequency of transactional sex (in exchange for drinks) at bar |
|                                         | Frequency of violence and intoxication at bar |
|                                         | Frequency of feeling safe at bar |
Data Collection

- **Quantitative survey**: data collected at baseline and endline (2 cross sectional samples)
  - Time Location Sampling (TLS) to recruit representative sample of bar patrons
  - Bars randomly slotted into calendar of “recruitment events”, such that 70% visits occurred at “peak” and 30% at “off peak” periods

- **Qualitative data**: interviews and focus-groups at endline
  - Convenience sample

- **Monitoring data**: ongoing during implementation
  - Event-level reporting for mobilization activities and attendance registers
Survey Respondents

<table>
<thead>
<tr>
<th>Time</th>
<th>Bars Sampled</th>
<th>Patrons Sampled</th>
</tr>
</thead>
<tbody>
<tr>
<td>BL</td>
<td>43 (randomly selected from all bars n= 256)</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td></td>
<td>301</td>
</tr>
<tr>
<td></td>
<td></td>
<td>199</td>
</tr>
<tr>
<td>EL</td>
<td>24 (all bars that participated in project)*</td>
<td>507</td>
</tr>
<tr>
<td></td>
<td></td>
<td>258</td>
</tr>
<tr>
<td></td>
<td></td>
<td>249</td>
</tr>
</tbody>
</table>

* Only 3 bars included in both BL & EL sample ~ possible selection bias

- BL & EL samples mostly consistent
  - Young men and women (avg. age 31-32)
  - Unmarried but in a relationship (14-16% married)
  - Majority have at least primary education (71%) but very few have education beyond secondary level
  - About 35% of men and 42% of women have salaried employment
Findings

1. Exposure analysis
2. Pre-Post Trend analysis
3. Dose-response analysis
4. Insights from the qualitative data
1: Exposure Analysis - Key Takeaways

- Overall relatively high intensity of the intervention over a short period (9 months)

- Bar owners were:
  - successful in making changes to bar environments
  - successful intervening with high-risk customers

- Consistent responses across bars
  - 9 bars were “highly adherent”

- Exposure to community mobilization relatively high
Experienced Interpersonal Interventions by Bar Staff

- Directly experienced 2 or more interventions:
  - Total: 24%
  - Men: 35%
  - Women: 12%

- Observed others experiencing interventions:
  - Total: 38%
  - Men: 47%
  - Women: 28%

* Denotes difference between men and women is statistically significant at the p.05 level.
Observed Changes to Bar Environment

- **64%** Report increase in alcohol/HIV materials
- **15%** Report increase in condom availability
- **33%** Report decrease in bar hours
- **19%** Report increase in sale of food/non-alcohol
• Monitoring data: community volunteers conducted 77 “events” reaching over 750 community members
2: Pre-Post Analysis - Key Takeaways

- We found some possible improvements over time:
  - Levels of alcohol dependency (AUDIT)
  - Frequency of binge drinking
  - Perceived safety within bars
- Power of inference restricted by sampling limitations
## Results of Pre-Post Analysis by Domain

<table>
<thead>
<tr>
<th>Domain</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>AUDIT score decreased: (10.8 \rightarrow 9.0)</td>
</tr>
<tr>
<td></td>
<td>Binge drinking decreased: (54% \rightarrow 25%)</td>
</tr>
<tr>
<td>HIV Knowledge</td>
<td>• fairly accurate perceptions &amp; basic HIV knowledge</td>
</tr>
<tr>
<td></td>
<td>• no change over time</td>
</tr>
<tr>
<td>Sexual Behavior</td>
<td>No change in most measures, though patterns suggest use of condoms with regular partners has decreased slightly</td>
</tr>
<tr>
<td></td>
<td>• w/ spouses: (25% \rightarrow 7%) of sexual episodes protected</td>
</tr>
<tr>
<td></td>
<td>• w/ boy/girlfriends: (65% \rightarrow 55%) of sexual episodes protected</td>
</tr>
</tbody>
</table>
AIDS Support and Technical Assistance Resources

Perceptions of Bar Environment (Total)

- People never engage in violence*
- People are never willing to exchange drinks for sex*
- People are never intoxicated/very drunk*
- I never feel unsafe*

* Denotes difference between BL & EL is statistically significant
Perceptions of Bar Environment (Patrons of 3 Matched Bars)

- People never engage in violence*
- People are never willing to exchange drinks for sex*
- People are never intoxicated/very drunk*
- I never feel unsafe*

* Denotes difference between BL & EL is statistically significant
3: Dose-Response Analysis

Is higher program exposure associated with more positive outcomes at endline, supporting the hypothesis that bar-based activities can exert a positive influence on our key measures?

- Outcomes observed among patrons who directly experienced 2 or more interventions
  - Exposed (individual): n= 122; 24% of EL sample
  - Unexposed (individual): n= 385; 76% EL sample

** Relationships tested using simple linear regression controlling for unobserved bar-level effects
3: Dose-Response Analysis - Key Takeaways

- Bar staff appropriately targeted intervention to high risk patrons
- Improved sexual risk intentions
- Attitudes towards condoms have yet to manifest into more risk-averse sexual practices
- Associations between program exposure and alcohol use not consistent, though women’s exposure linked to lower rates of binge drinking & fewer standard units consumed
- Program exposure linked to better perceived safety within bar
### Dose Response - Bar level exposure

| Alcohol | • No statistically sig (p<.05) results in binge drinking, std. units consumed or AUDIT scores for sample as a whole  
|         |   – W only: exposure associated with lower rates of binge drinking (2% v 18%)  
|         |   – W only: fewer avg. std. units consumed (2.86 v 4.17)  
|         | • Exposure associated w/ more perceived control over drinking < 5 (91% v 84%) |
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| Sexual Risk Intentions | • no stat. sig (p<.05) results, but for all 7 measures greater proportion of exposed group exhibit positive attitudes & behaviors |
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| Sexual Risk   | • no stat. sig (p<.05) results, but for all 7 measures greater proportion of exposed group exhibit positive attitudes & behaviors |
| Sexual Behav. | • exposure associated w/ higher condom use at last sex w/ spouses (11% v 0%)  
|               |  • exposure may be associated (p<.10) w/ higher rates of drunk at last sex w/ casual partner (70% v. 49%) |
# Dose Response - Bar level exposure

<table>
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<tr>
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| HIV                 | • No significant associations                                                |
### Dose Response - Bar level exposure

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| Sexual Risk       | • no stat. sig (p<.05) results, but for all 7 measures greater proportion of exposed group exhibit positive attitudes & behaviors |
| Sexual Behav.     | • few statistically significant results  
                     • exposure associated w/ higher condom use at last sex w/ spouses (11% v 0%) |
| HIV               | • no significant associations                                                                                                                                 |
| Bar Envir.        | • exposure associated w/ positive perception of personal safety in bar  
                     (77% report ‘never’ feeling unsafe v 64%) |
## Dose Response - Individual level exposure

| Alcohol | • patterns conform to expectations that exposed individuals more likely to drink heavily though statistical association is weak:  
|         |   – Regular binge drinking: **34% v 21%** *(p<.10)*  
|         |   – AUDIT scores **11.0 v 9.48** *(p < .10)* |
**Sexual Risk by Individual-Level Exposure**

- Discussed condoms with partner (last 6 mo)*
- Obtained condoms: for sale or free (last 6 mo)*
- Obtained condom at bar where recruited (last 6 mo)*
- Refused to have sex without condom (last 6 mo)*
- Always intends to use condom with causal partner
- Always has control over using condoms with sexual partner
- Very likely to use condom with casual partner after drinking

* Denotes difference between exposed & unexposed is statistically significant at the p.05 level
Dose Response - Individual level exposure

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|                  | • exposure associated w/ higher number of sex partners (1.8 v 1.2)  
| Bar Envir.       | • exposure associated w/ positive perception of personal safety in bar (78% report ‘never’ feeling unsafe v 65%)  

4: Qualitative Insights

Bar-Based Component

- Value of training
  - changed the way staff interacts with customers
  - Knowledge about “dangers of alcohol”

- Interviews reinforced finding that bars are an important livelihood strategy, yet owners acknowledge alcohol misuse as a major challenge and public health concern

*I feel good, because that training brought a change even to me. Before I also used to drink too much, but now because of the training I have changed. Now I can even tell or advise my customers, but it is all because of this training. If it was not because of the training, where would I get the information to tell my customers?* (IDI, bar owner)

*Before SFH came, the business owners were just selling and the customer was just buying, but after the training, we talk to customers as people that can listen and recall what you have told them.* (IDI, bar owner)
4: Qualitative Insights

Community Mobilization Component

- Goal of community activism taking hold? Data suggests there is increased awareness and agency within the community to address alcohol as a priority issue:

Now we are sharing ideas, such as if a person is excessive in using alcohol, even if he goes to the next bar he will not be given alcohol. This training is mainly mobilizing us to work together, so that we fight the excessive use of alcohol.

(IDI, bar owner)

CAC member “Our job is to educate the community about alcohol-related HIV risks and other effects of alcohol, and to encourage those on ARV medication not to use alcohol. Alcohol is not wealth, it is dangerous. We are not saying people should not drink, but they should do it carefully. We are losing a lot through alcohol.” (FGD, CAC members)
Study Limitations

- Low power of attribution (lack of control group)
- Selection bias
- Short time frame to observe results: project running for 12 months, including start-up, recruitment, and training
- Social desirability bias
Lessons Learned

- Multilevel intervention to address alcohol-related HIV risk is feasible, resonates with community.
- Bar owners can be willing partners
- Formative research is critical
- Methodological challenges
  - Adjusting for loss to follow-up and sustaining participation of bar owners in transient community
  - Attrition bias? Most “successful” outcome may remove individuals from the sample (e.g., stop drinking), thus underestimating program effect
- Need for innovative evaluation metrics aligned with bar- and community-level approach
Where do we go from here?

Namibia becoming a nation of drunks

RESEARCH done in Windhoek’s Baha’i governamental reveals that 38 per cent of men and 22 per cent of women have exchanged sex for alcohol.

Another finding reveals that 16 per cent of Namibian residents have seen minors drinking alcohol. Another 31 per cent have been drunk when having casual sex, and a further 50 per cent have been drunk when having sex with a prostitute.

The objectives of the research, which was done in collaboration with the Society for Family Health (SFH), was to understand how bar owners, staff, patrons and community members perceive the risks and benefits of alcohol consumption. Another objective was to solicit ideas about approaches for mitigating the negative effects of alcohol.

The research found that alcohol and harmful drinking was extremely common.

About one-fourth of men and over one-third of those men who reported binge drinking two or four times per month.

“Nearly 265 bars were enumerated within Windhoek’s four square kilometres, and most were located in the ‘bar’ areas,” reported Eussen Shikongo, country director for SFH.

The research further found that 41 per cent of men and women reported drinking an average of three to five units of alcohol (one beer, one glass of wine or one shot of spirits) on a typical day.

“Two in three women who reported forced sex consumed alcohol,” said Shikongo at the launch of the report.

Photo: Tessa Dlamini
THANK YOU!